

FIGURE 1

TCTAGACTGG ACAGCATCCA CAAGAGAAGC ACCTAGAAGG AGAATTTC CCAGCAGCTT  
GCTCAGGACC CTGCAGGAGC CGCAGCTGGG ACTGGACCTG CTGTTAACCA TGAACCTTC  
CTGCTGCCCTG TCTTCTGTTT CTCCGATGCT GCCTAACCTC TCTGAGCACC CTGAGCCCC  
TCCTGCCAGC AACCGGAGCG GCAGTGGGTT CTGTGAGCAG GTCTTCATCA AGCCGGAGGT  
CTTCCTGGCT CTGGGCATCG TCAGTCTGAT GGAAAACATC CTGGTGATCC TGGCTGTGGT  
CAGGAATGGC AACCTGCACT CTCCCAGTGA CTTCTTCCTG TGCAAGCTGG CTGCAGCCGA  
CATGCTGGTG AGCCTGTCCA ACTCCCTGGA GACCATCATG ATGCCGTGA TCAACAGCGA  
CTCCCTGACC TTGGAGGACC AGTTTATCCA GCACATGGAT AATATCTTCG ACTCTATGAT  
TTGCATCTCC CTGGTGGCCT CCATCTGCAA CCTCCTGGCC ATTGCCATCG ACAGGTACGT  
CACCATCTTC TATGCCCTTC GGTACACAG CATCATGACA GTTAGGAAAG CCCTCACCTT  
GATCGGGGTC ATCTGGGTCT GCTGCGGCAT CTGCGCGTG ATGTTCATCA TCTACTCCGA  
GAGCAAGATG GTCATCGTGT GTCTCATCAC CATGTTCTTC GCCATGGTGC TCCTCATGGG  
CACCCATAT ATCCACATGT TCCCTTCCTGC CAGGCTCCAC GTCCAGCGCA TCGCAGTGCT  
GCCCTGCT GGCGTGGTGG CCCCACAGCA GCACTCCTGC ATGAAGGGGG CTGTCACCCT  
CACTATCCTG CTGGGTGTTT TCATCTTCCTG CTGGGCGCCT TTCTTCCTCC ACCTGGTCCT  
CATCATCACC TGCCCCACCA ATCCCTACTG CATCTGCTAC ACGGCCCAT TCAACACCTA  
CCTGGTTCTC ATCATGTGCA ACTCCGTCA CGACCCCTC ATCTACGCCT TCCGCAGCCT  
GGAGCTGCGC AACACGTTCA AGGAGATTCT CTGCGCGTC AACAGCATGA ACTTGGGCTA  
GGATGCCCGT GGAGGTGTTG CACATCCAGC CAAGAGACAA AAACAACGCT CAGACGGGAC  
GTAAAAGGGT GTAGGAGCT GGAAGCTGTG TTGGCTTCGT CTGTAAGCTC GTGGCCCTTT  
GCAGACGGGA CACGGCGTAG GATGGGCTGT CTGTGAGGAT CTGTGTGTGG GTAAGTCAGT  
TTGATCTAGC ACATAGCCTG GAAGAATCAG GCAAAGCAGC CCTGAGTGTGTC ATCTGTGTTC  
ATTGCTAGGC ACCCAGGGTT TGTGGCCCCCT GCCTGCTTAT TGGCTTGTA CCAGTAACGT  
TGCTTCAGC CAACCAGACC GGAGGGCTCT CGTGAGCAGA AAGAGTGCTT AGACTTCCGG  
CAAGCATCCT GGCTCACAGC GGCCACCTCC TGACCACTAC CGGGAGAGCT TTGCACATAT  
TCTGTGGGAG ATTGAGTGAA GCCCTGAAAAA CAATGTGATA TTTGCTGCTC CCTTCCAGAA  
CTTACATCTG TGCCAGCCTC CCCGAACCCC TGACAGAGA CATGACCCCC TTCTCCCTGT  
GCCGTTGTCA TGGTTGTTAT TATTGTTGGA GTTTGTTCG TTAAAATCTA AGCTT (SEQ ID NO:1).

## FIGURE 2

MNSSCCLSSV SPMLPNLSEH PAAPPASNRS GSGFCEQVFI KPEVFLALGI VSLMENILVI  
LAVVRNGNLH SPMYFFLCSL AAADMLVSLN NSLETIMIAV INSDSLTLED QFIQHMDNIF  
DSMICISLVA SICNLIAIAI DRYVTIFYAL RYHSIMTVRK ALTLIGVIWV CCGICGVMFI  
IYSESkmIVIV CLITMFFAMV LLMGTLIYHM FLFARLHVQR IAVLPPAGVV APQQHSCMKG  
AVTITILLGV FIFCWAPFFL HLVLIIITCPT NPYCICYTAH FNTYLVLIMC NSVIDPLIYA  
FRSLELRNTF KEILCGCNSM NLG (SEQ ID NO:2.)

## FIGURE 3

ATGAGCATCC AAAAGAAGTA TCTGGAGGGA GATTTGTCT TTCTGTGAG CAGCAGCAGC  
TTCTACGGA CCCTGCTGGA GCCCCAGCTC GGATCAGCCC TTCTGACAGC AATGAATGCT  
TCGTGCTGCC TGCCCTCTGT TCAGCCAACA CTGCCATTATG GCTCGGAGCA CCTCCAAGCC  
CCTTTCTTCA GCAACCAGAG CAGCAGCGCC TTCTGTGAGC AGGTCTTCAT CAAGCCCGAG  
ATTTTCTGT CTCTGGGCAT CGTCAGTCTG CTGGAAAACA TCCTGGTTAT CCTGGCCGTG  
GTCAGGAACG GCAACCTGCA CTCCCCGATG TACTTCTTTC TCTGCAGCCT GGCGGTGGCC  
GACATGCTGG TAAGTGTGTC CAATGCCCTG GAGACCATCA TGATGCCAT CGTCCACAGC  
GACTACCTGA CCTTCGAGGA CCAGTTTATC CAGCACATGG ACAACATCTT CGACTCCATG  
ATCTGCATCT CCCTGGTGGC CTCCATCTGC AACCTCCTGG CCATGCCGT CGACAGGTAC  
GTCACCACATCT TTTACCGCGCT CCGCTACAC AGCATCATGA CCGTGAGGAA GGCCCTCACC  
TTGATCGTGG CCATCTGGGT CTGCTGCGGC GTCTGTGGCG TGGTGTTCAT CGTCTACTCG  
GAGAGCAAAA TGGTCATTGT GTGCCTCATC ACCATGTTCT TCGCCATGAT GCTCTCATG  
GGCACCCCTCT ACGTGCACAT GTTCTCTTT GCGCGGCTGC ACGTCAAGCG CATAGCAGCA  
CTGCCACCTG CCGACGGGGT GGCCCCACAG CAACACTCAT GCATGAAGGG GGCAGTCACC  
ATCACCATTC TCCTGGCGT GTTCATCTTC TGCTGGGCC CTTCTTCCT CCACCTGGTC  
CTCATCATCA CCTGCCAACAC CAACCCCTAC TGCATCTGCT ACACTGCCA CTTCAACACC  
TACCTGGTCC TCATCATGTG CAACTCCGTC ATCGACCCAC TCATCTACGC TTTCCGGAGC  
CTGGAATTGC GCAACACCTT TAGGGAGATT CTCTGTGGCT GCAACGGCAT GAACTTGGGA (SEQ ID  
NO:3)

## FIGURE 4

MSIQKKYLEG DFVFPVSSSS FLRTLLEPQL GSALLTAMNA SCCLPSVQPT LPNGSEHLQA  
PFFSNQSSSA FCEQVFIKPE IFLSLGIVSL LENILVILAV VRNGNLHSPM YFFLCSLAVA  
DMLVSVSNAL ETIMIAIVHS DYLTfedQFI QHMDNIFDSM ICISLVAASIC NLLAIAVDRY  
VTIFYALRYH SIMTVRKALT LIVAIWVCCG VCGVVFIVYS ESKMVIVCLI TMFFAMMLM  
GTLYVHMF LF ARLHVKRIAA LPPADGVAPQ QHSCMKGAVT ITILLGVIF CWAPFFLHLV  
LIITCPTNPY CICYTAHFNT YLVLIMCNSV IDPLIYAFRS LELRNTFREI LCGCNGMNLG (SEQ ID  
NO:4).

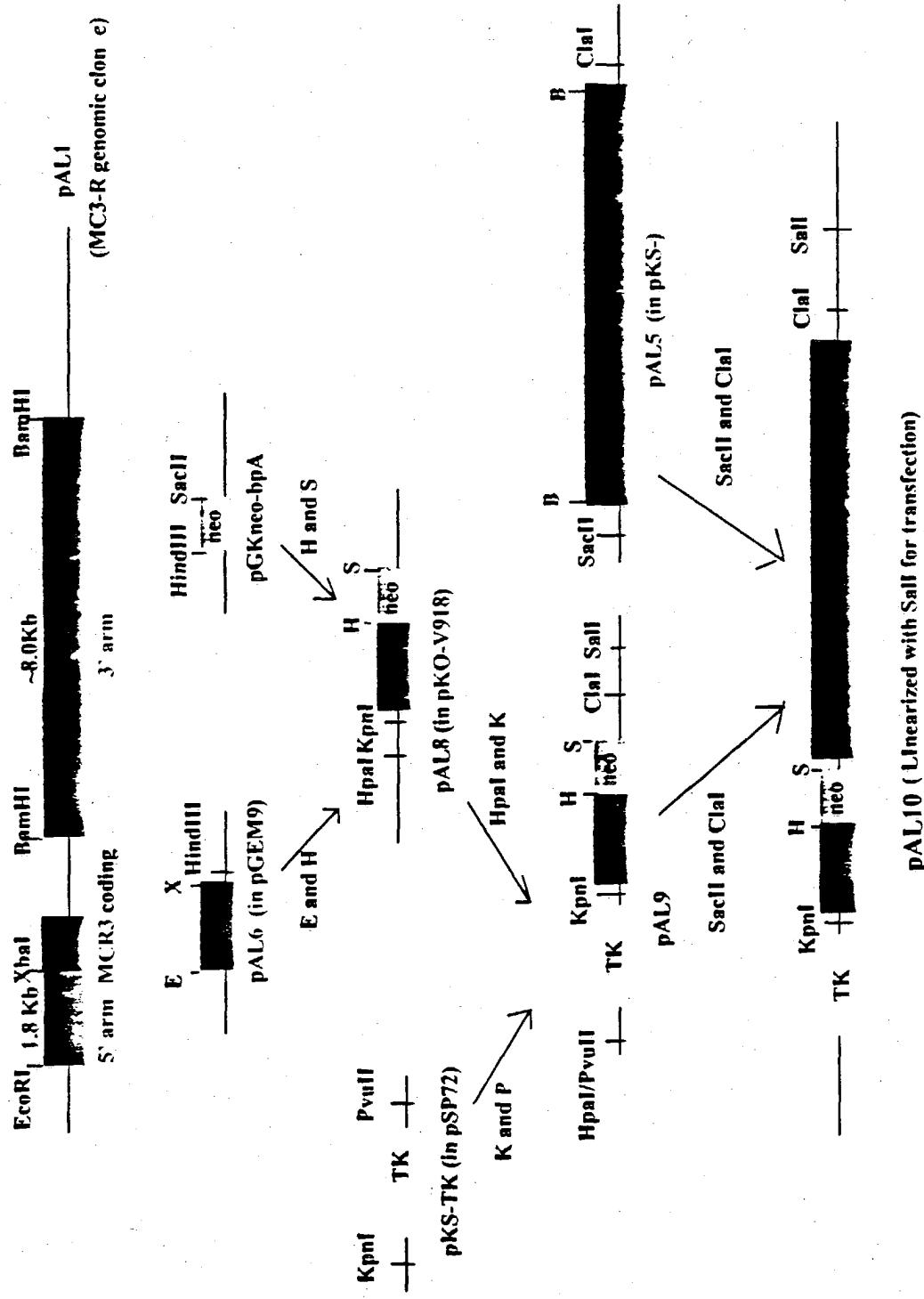


FIGURE 5

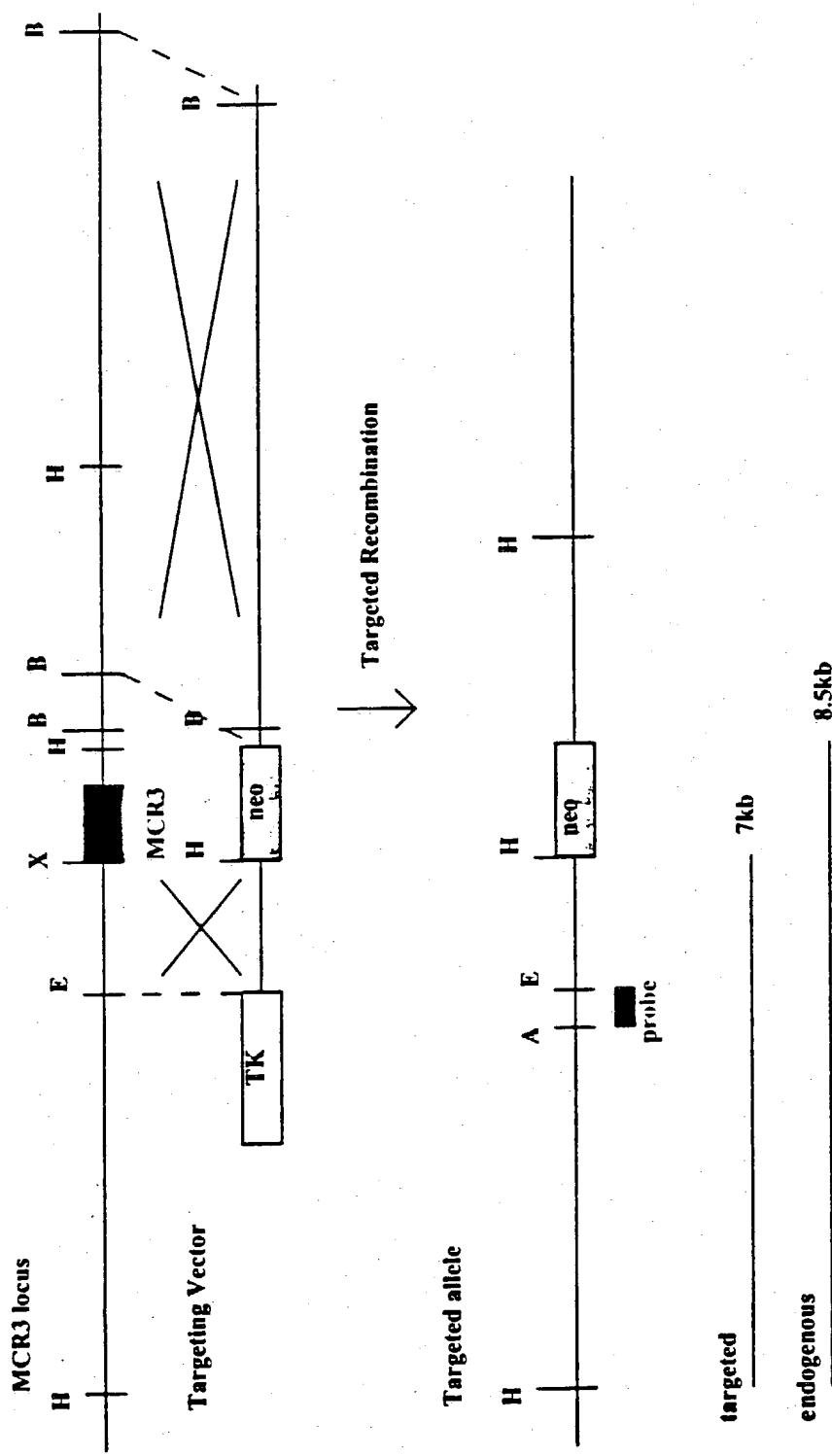


FIGURE 6

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## Southern blot analysis

FIGURE 7A

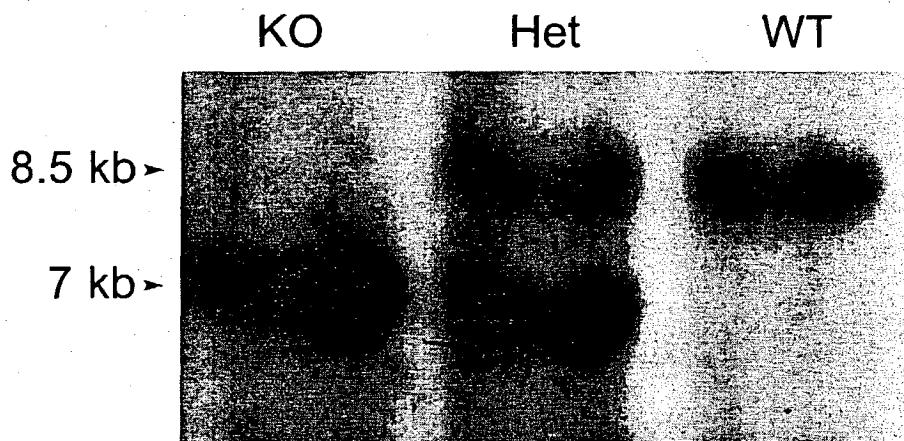
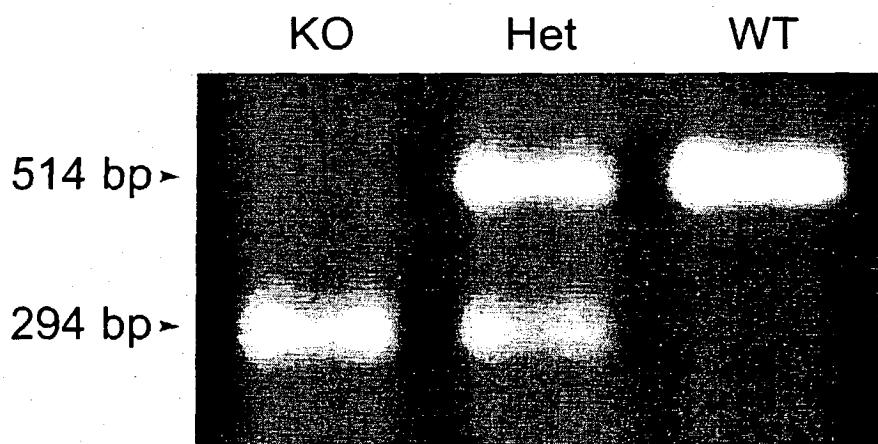
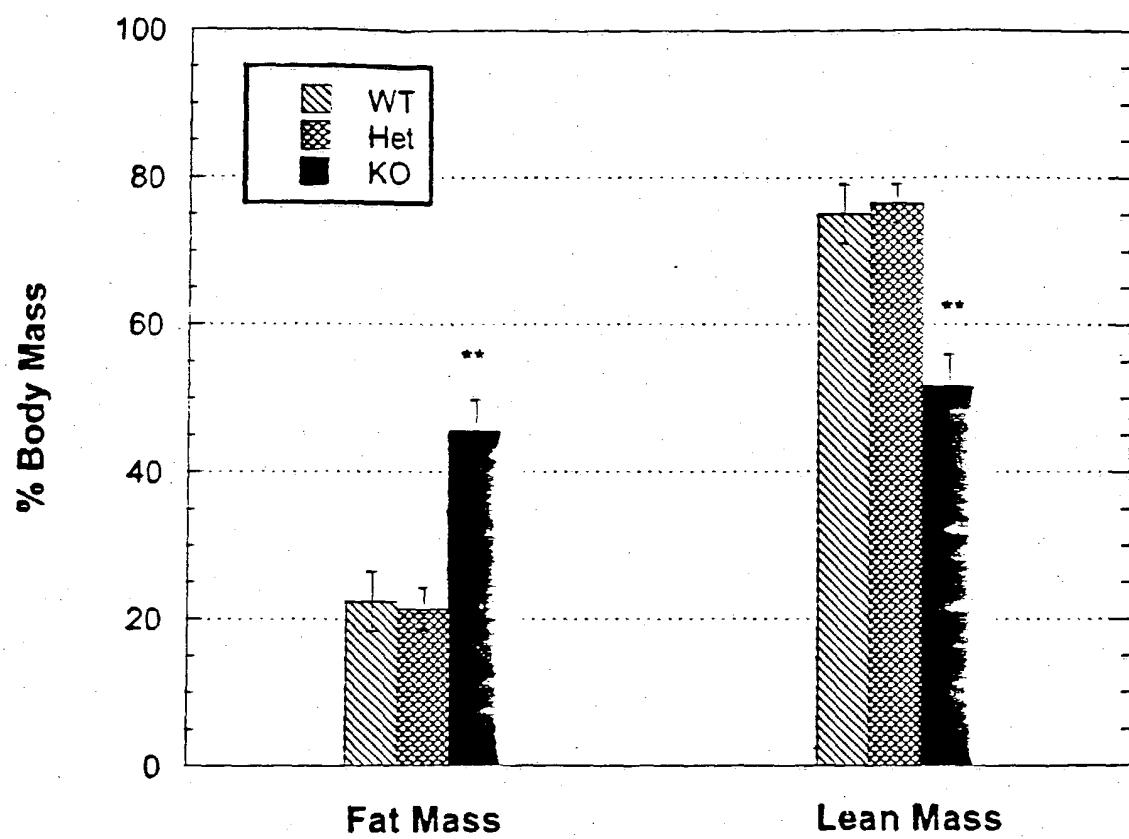


FIGURE 7B

## PCR analysis



**FIGURE 8**

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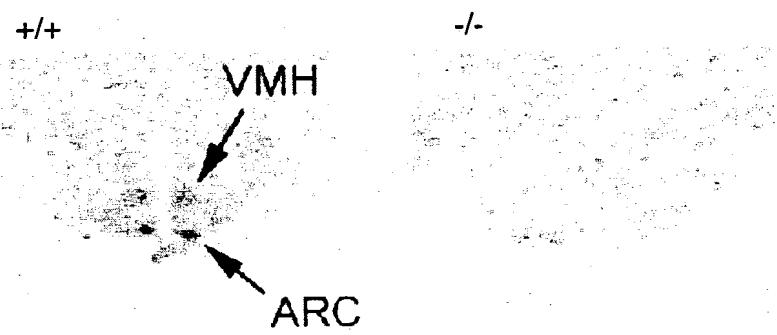
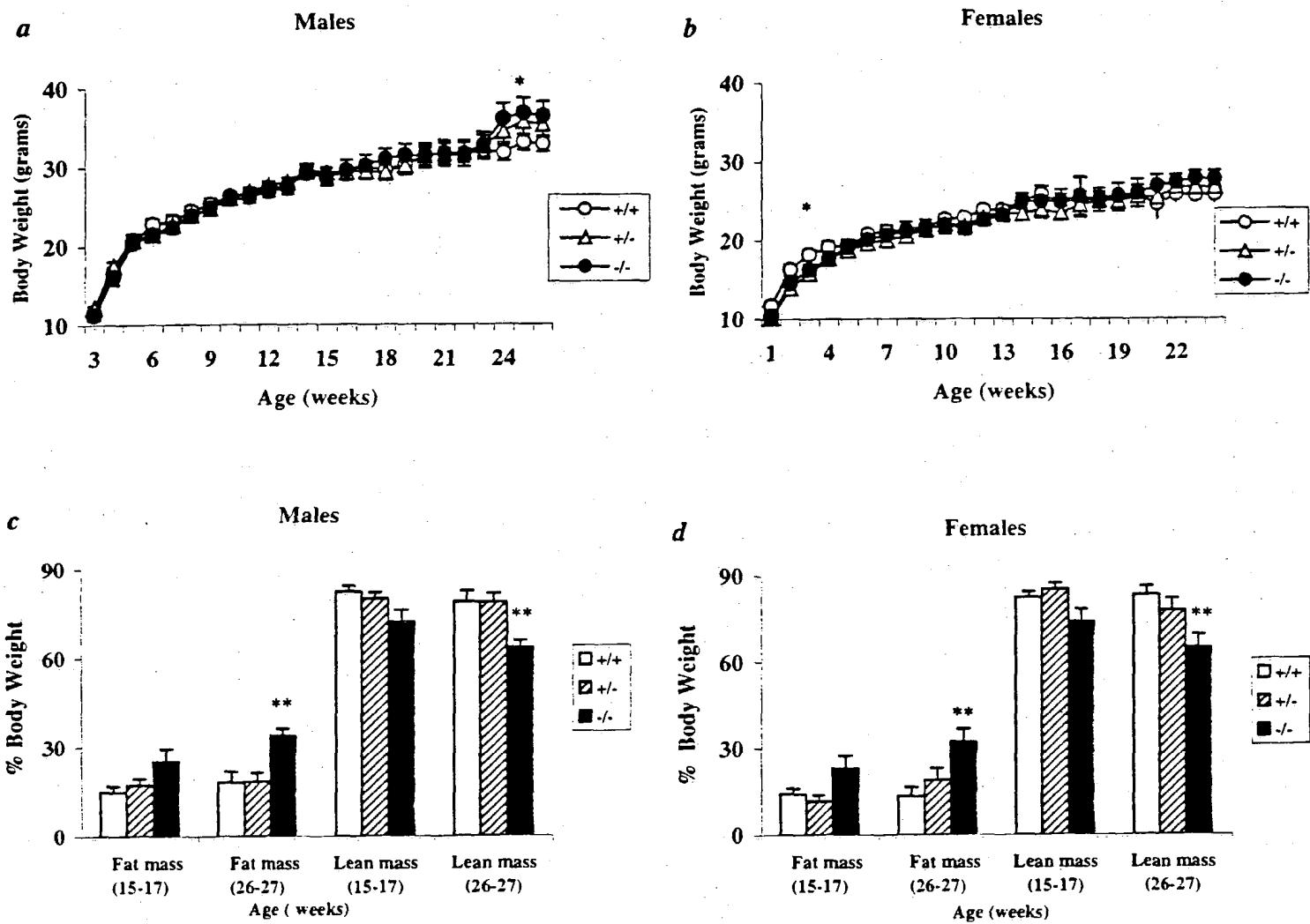


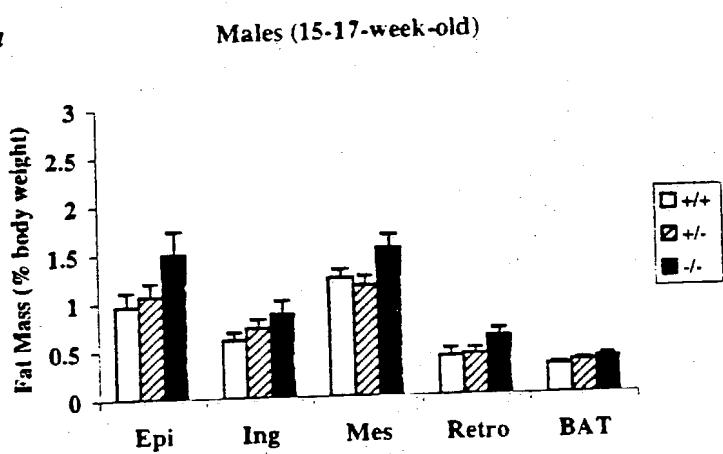
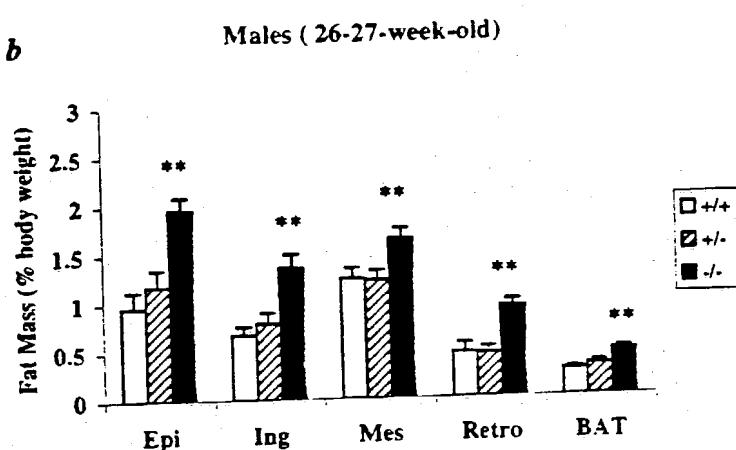
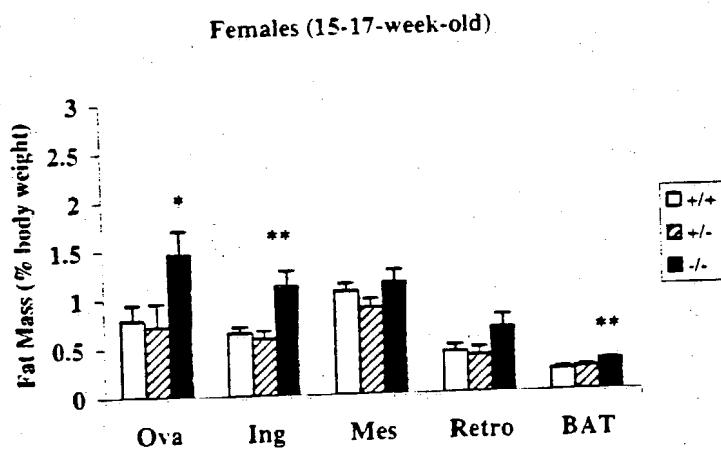
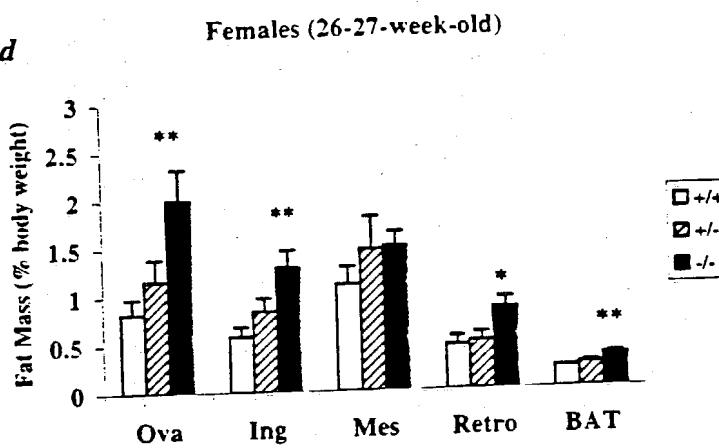
FIGURE 9

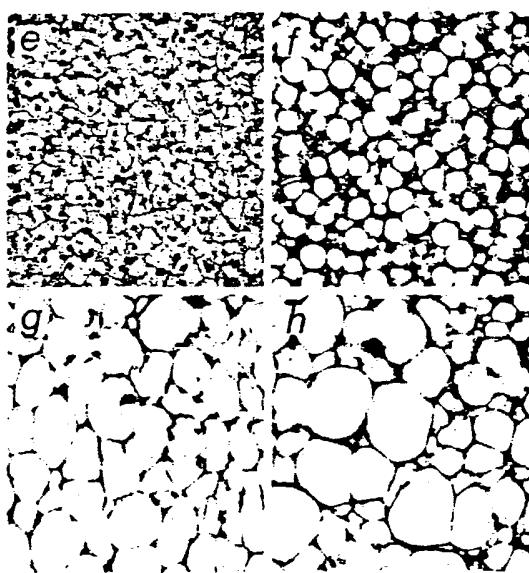
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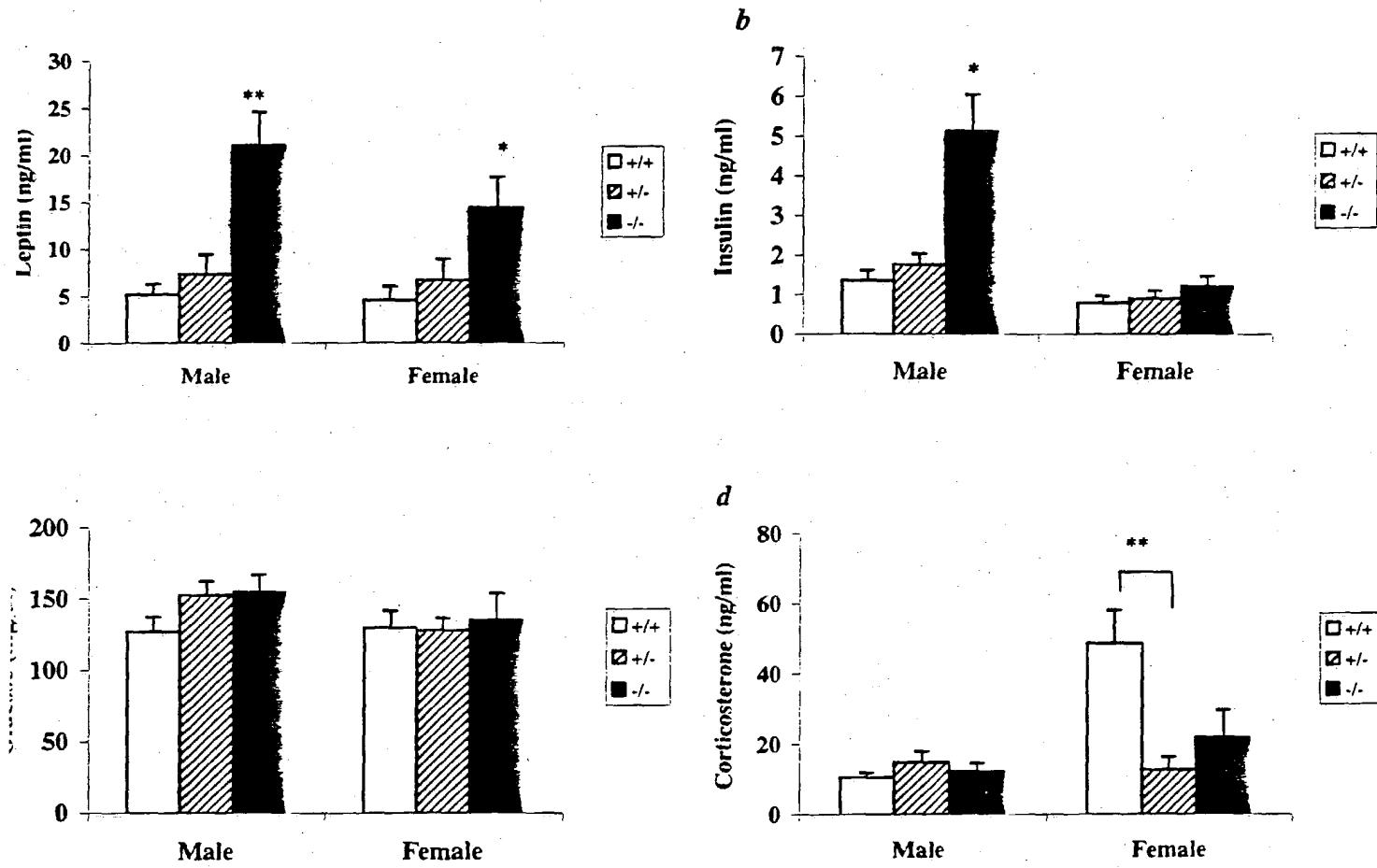


FIGURES 10A-D

**a****b****c****d****FIGURES 11A-D**

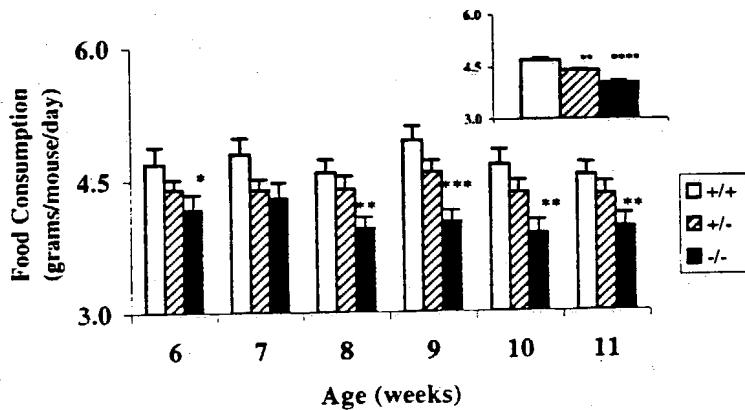
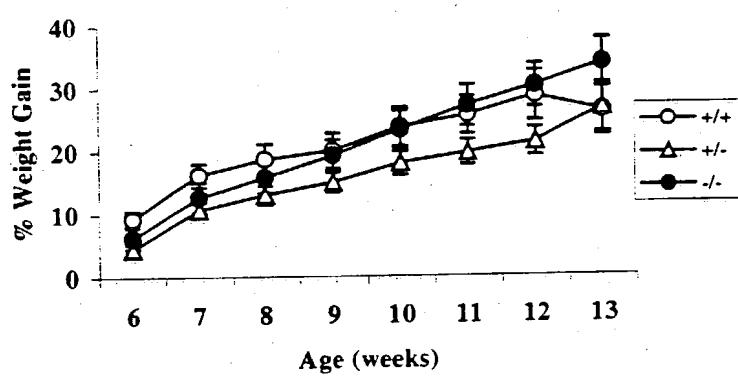
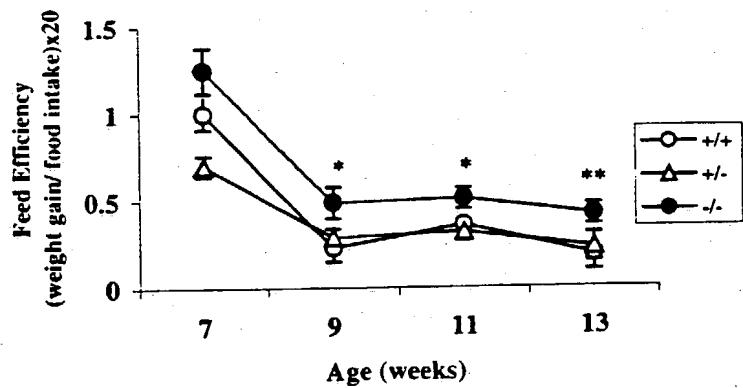


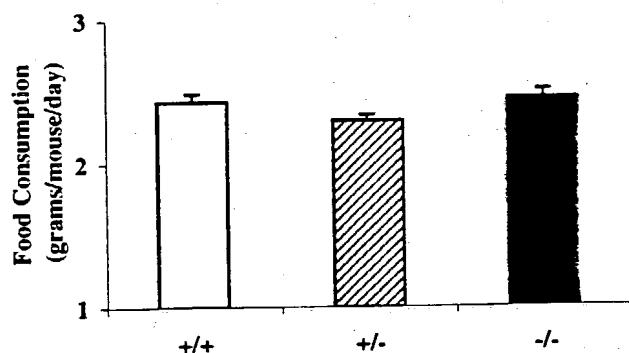
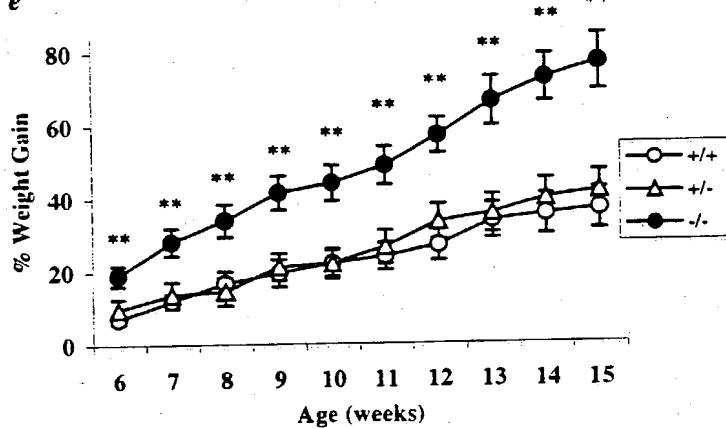
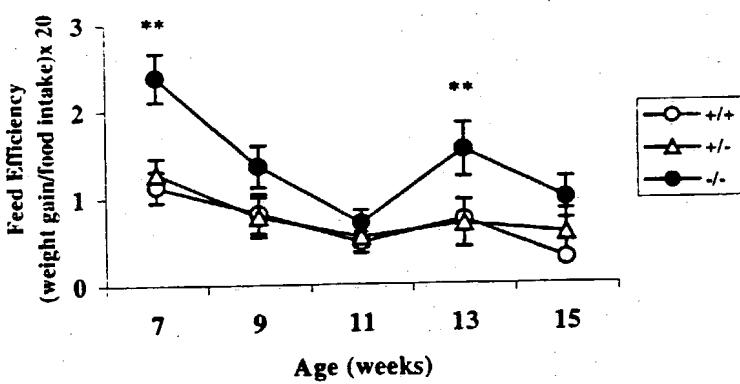
FIGURES 11E-H



FIGURES 12A-D

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**a Males on Regular Chow****b Males on Regular Chow****c Males on Regular Chow****FIGURES 13A-C**

*d***Females on High Fat Diet***e***Females on High Fat Diet***f***Females on High Fat Diet**

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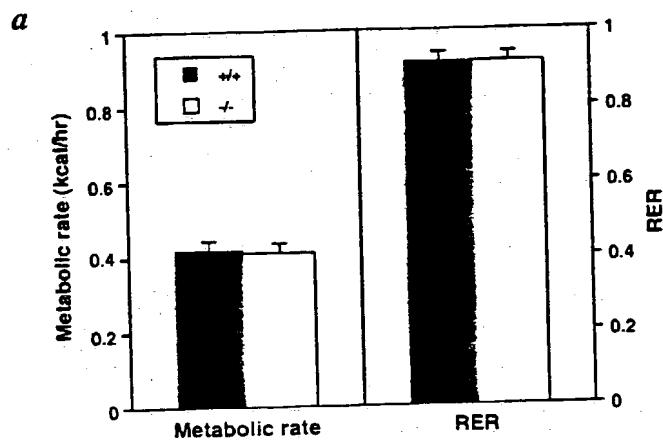
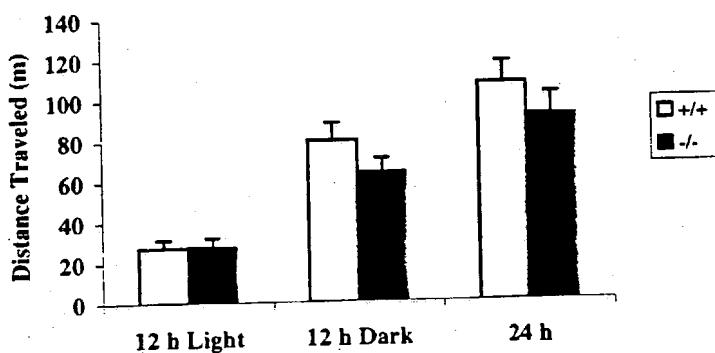
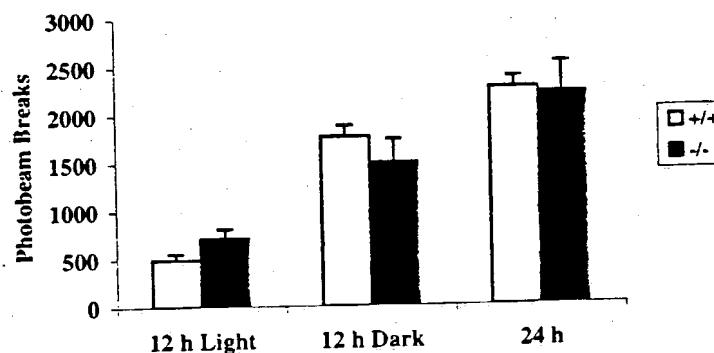
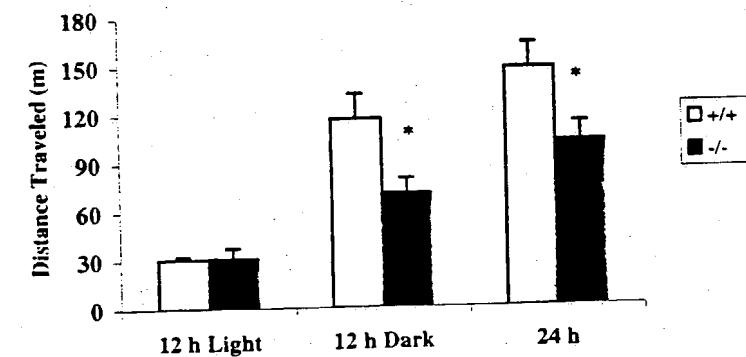
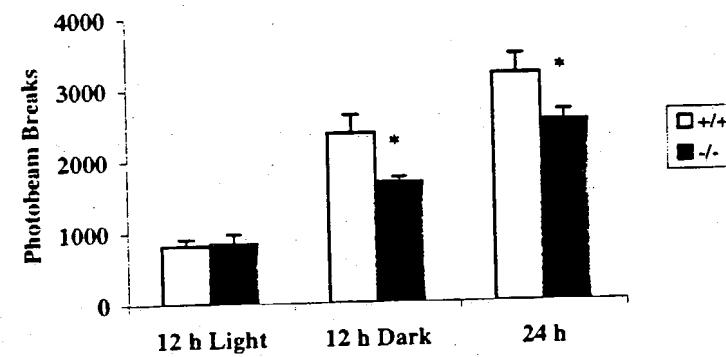


FIGURE 14A

**b Locomotor Activity of Males****c Fine Movements of Males****d Locomotor Activity of Females****e Fine Movements of Females****FIGURES 14B-E**

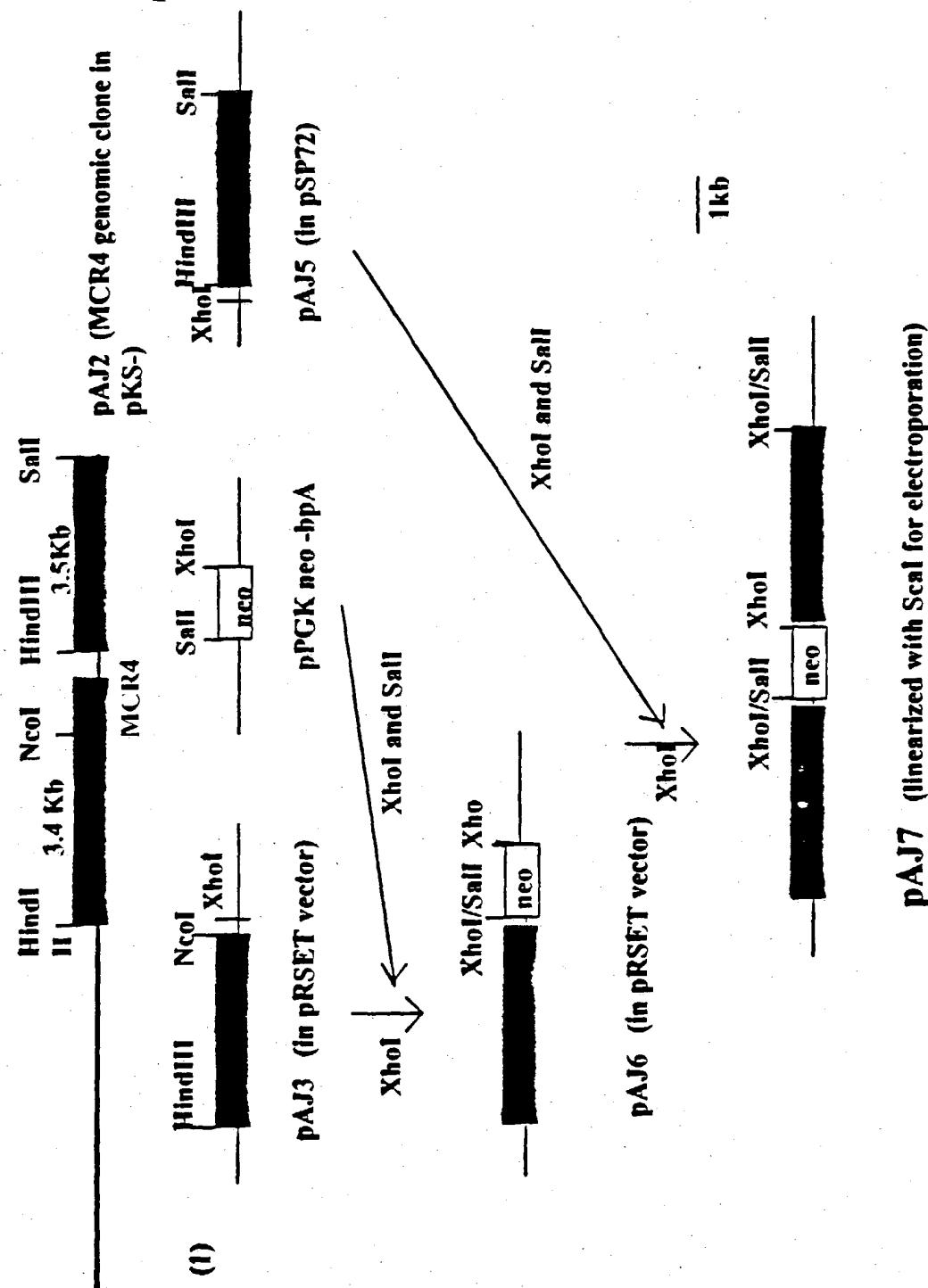


FIGURE 15

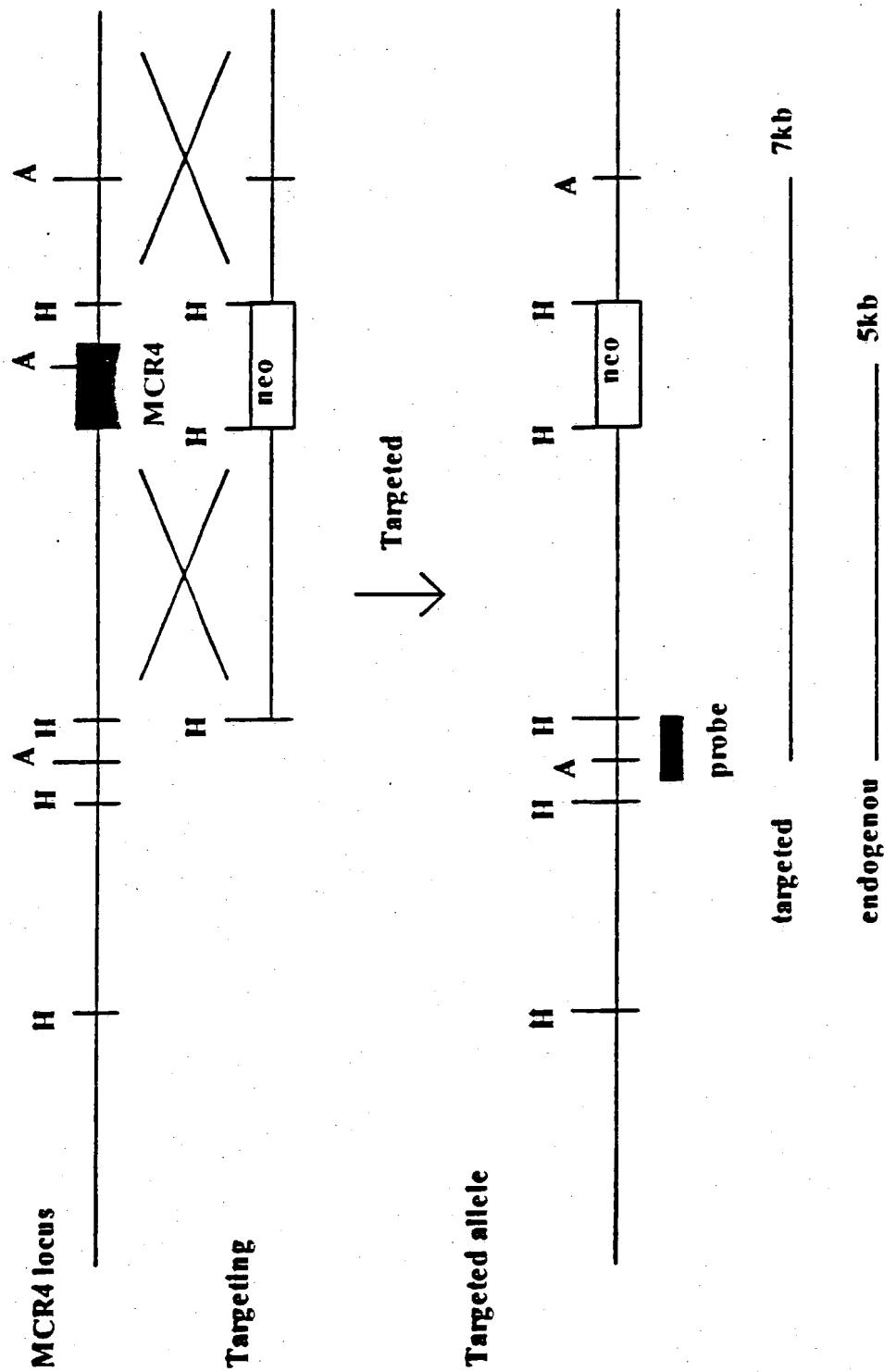


FIGURE 16

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## MC3-R and MC4-R effects on body weight in female mice (age 26 weeks)

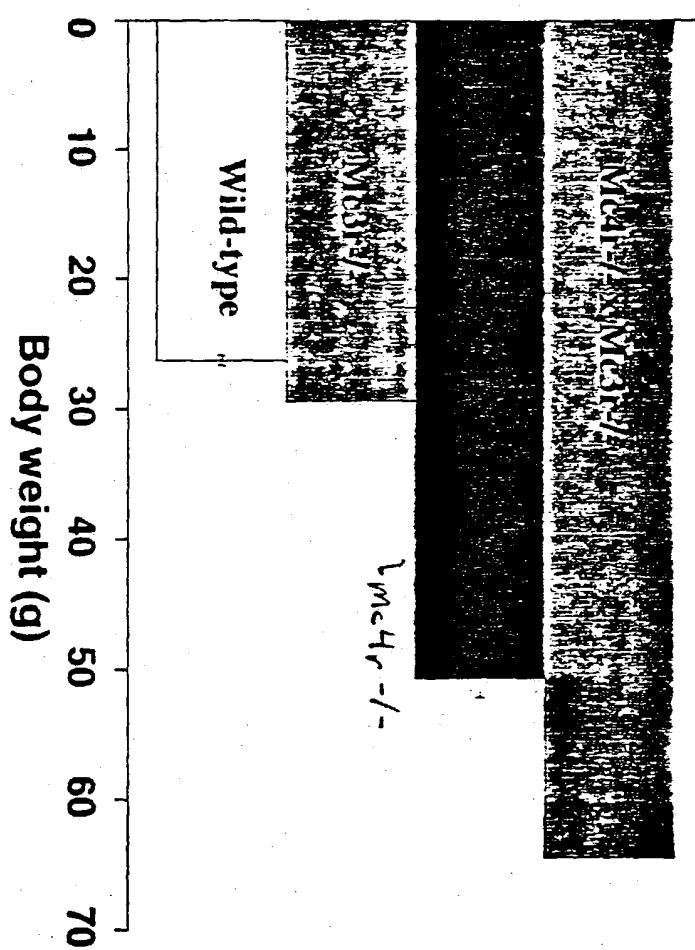
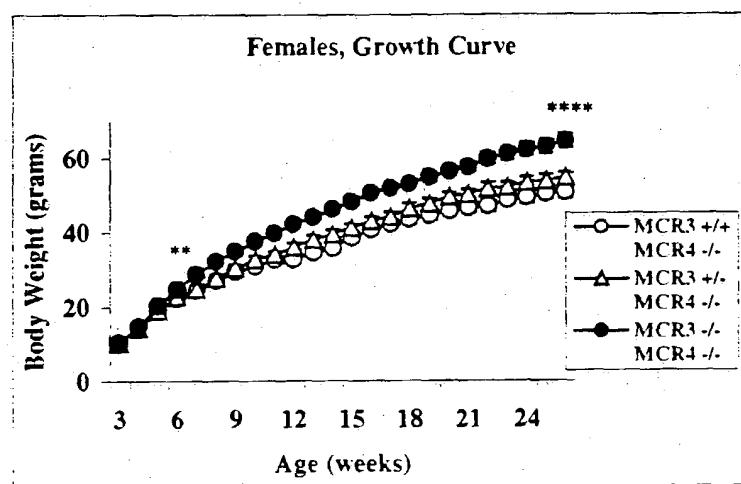
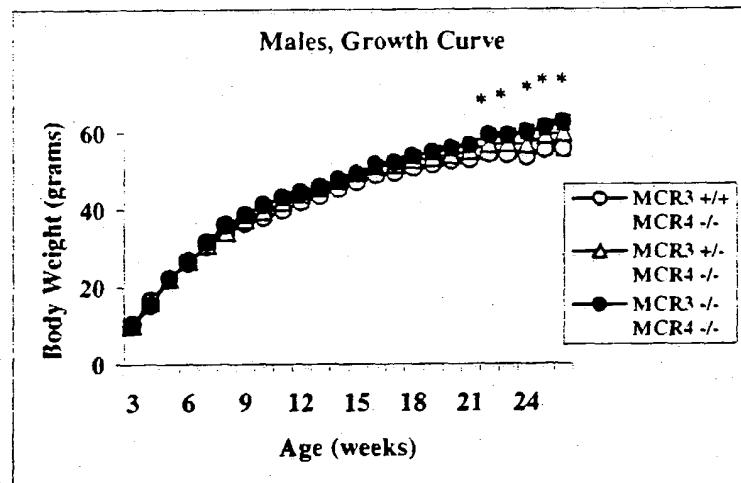


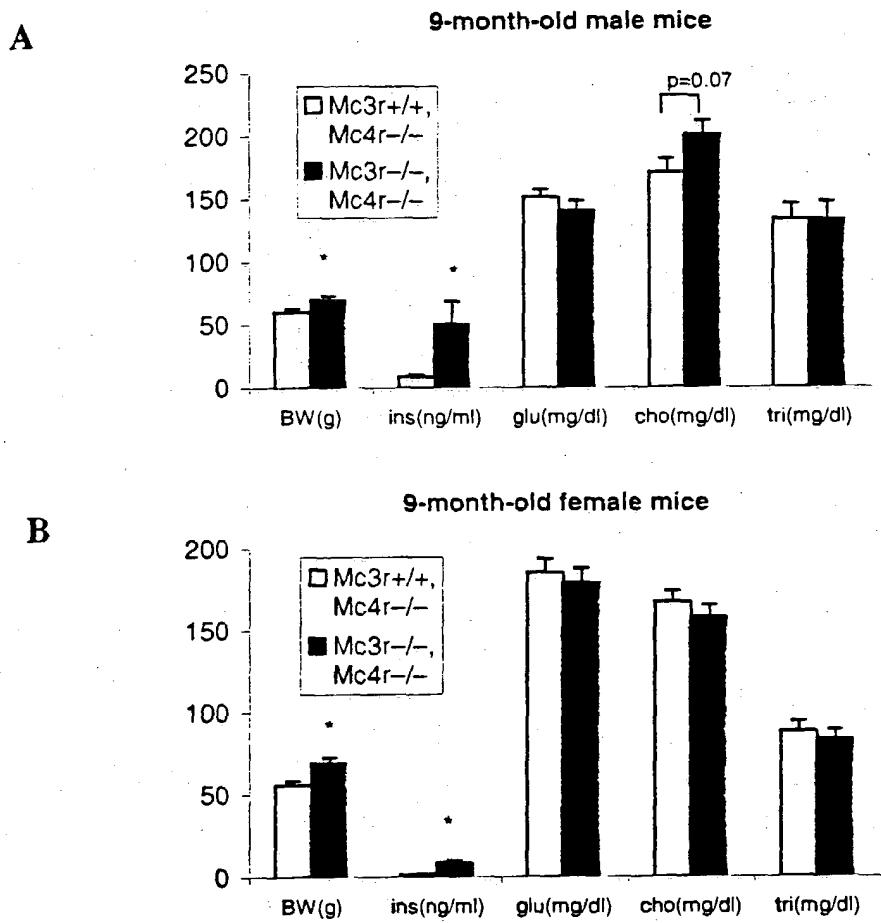
FIGURE 17

A

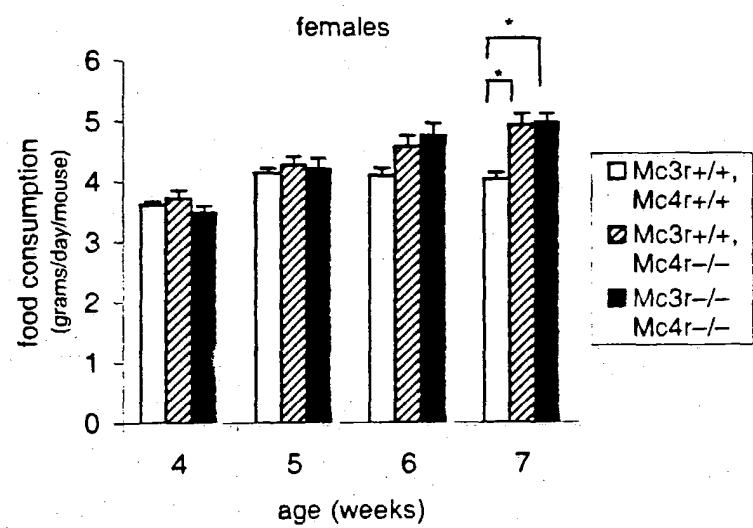


B

**FIGURE 18A - B**

**FIGURE 19A - B**

A



B

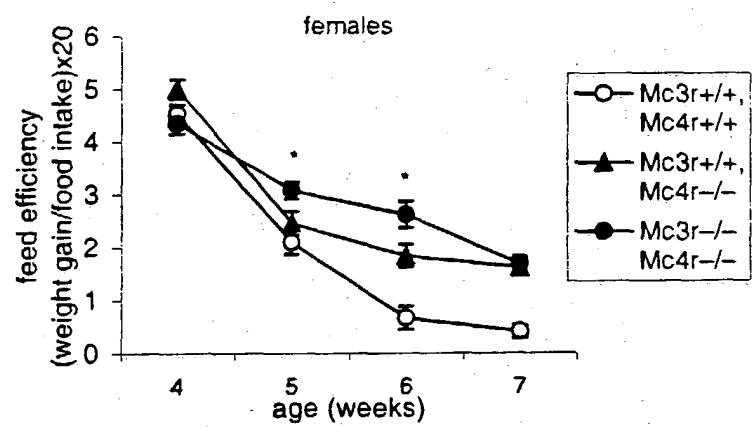


FIGURE 20A - B